CIVIL-TECH CONSULTANTS AND ENGINEERS

Building & Highway Material Testing Laboratory

NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.09/KRIDL/CEMENT/2013-14

Date: 25.03.2014

TEST REPORT

CLIENT	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	:	**Technical Manager,** KRIDL, Bangalore.
NAME OF THE WORK	:	Improvements to drains and roads of Thindlu Vidyaranyapura and other areas in Ward No. 09, Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	:	AEE/BBMP/VSD/PR/296/2013-14 Dated: 22.03.2014
SAMPLE ID	:	CEMENT
SAMPLES SUPPLIED BY	:	AGENCY

The results of the tests conducted on the cement sample are as follows:

Sl.No	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 8112-2013
1	Standard Consistency	IS-4031 (Part -4)	29.50 %	-
2	a) Initial Setting Time	IS-4031 (Part -5)	170 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part -5)	495 Minutes	Not More than 600 Minutes
3	Soundness by the Le-Chatelier method	IS-4031 (Part 3)	1 mm	Not more than 10 mm

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Job No.: CTCE/BBMP/W.No.09/KRIDL/SAND/2013-14 : 25.03.2014

TEST REPORT ON FINE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to drains and roads of Thindlu Vidyaranyapura and other areas in Ward No. 09, Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/VSD/PR/296/2013-14 Dated: 22.03.2014

Date of Testing : 25.03.2014

Material : Fine Aggregates Total Wt. of Aggregates in gms **2000**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits For Zone-II
10	0	0	0	100	100
4.75	56	2.80	2.80	97.2	90-100
2.36	293	14.65	17.45	82.6	75-100
1.18	398	19.90	37.35	62.7	55-90
600 Micron	424	21.20	58.55	41.5	35-59
300 Micron	462	23.10	81.65	18.4	8-30
150 Micron	253	12.65	94.30	5.7	0-10

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Job No.: CTCE/BBMP/W.No.09/KRIDL/AGG/2013-14 : 25.03.2014

TEST REPORT ON COARSE AGGREGATES
IS 383-1970 (RA- 2002)

Client : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to drains and roads of Thindlu Vidyaranyapura and other areas in Ward No. 09, Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/VSD/PR/296/2013-14 Dated: 22.03.2014

Date of Testing : 25.03.2014

Material : 40mm Aggregates

Total Wt. of Aggregates in gms **25200**

Is Sieve Size in mm	Weight Retained (gm)	Retained Weight in %	Cumulative Retained Weight in %	Cumulative Weight Passing in %	Spec.Limits
80	0	0	0	100	100
40	952	3.78	3.78	96.22	95-100
20	15283	60.65	64.42	35.58	30-70
10	5894	23.39	87.81	12.19	10-35
4.75	2726	10.82	98.63	1.37	0-5

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Job No.: CTCE/BBMP/W.No.09/KRIDL/STEEL/2013-14 25.03.2014

TEST REPORT ON REINFORCEMENT STEEL

Client	:	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	:	**Technical Manager,** KRIDL, Bangalore.
Name of the Work	:	Improvements to drains and roads of Thindlu Vidyaranyapura and other areas in Ward No. 09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	:	AEE/BBMP/VSD/PR/296/2013-14 Dated: 22.03.2014
Date of Test	:	25.03.2014
Technical Reference	:	IS: 1786-2008

Sl. No	Nominal size (dia) (mm)	Mass per metre (Kg/mtr)	TENSILE STRENGTH			Bend Test	Rebend Test
			0.20% proof stress/Yield stress N/mm^2	Tensile strength (Ultimate stress) N/mm^2	Elongation percent gauge length		
1	12	0.89	519	563	13.50	O.K	O.K

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Job No.: CTCE/BBMP/W.No.09/KRIDL/CUBE/2013-14

06.05.2014

TEST REPORT ON CONCRETE CUBES

Client	: **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
Agency	: **Technical Manager,** KRIDL, Bangalore.
Name of the work	: Improvements to drains and roads of Thindlu Vidyaranyapura and other areas in Ward No. 09, Vidyaranyapura Sub Division, BBMP, Bangalore.
Reference	: AEE/BBMP/VSD/PR/296/2013-14 Dated: 22.03.2014
Sample ID	: Drain Concrete
Size of cubes	: 150mmx150mmx150mm
Cross Sectional Area	: 22500 mm^2
Technical Reference	: IS: 516-1959 (Reaffirmed 2008)
Grade of Concrete	: M_{20}
Compressive Strength as on	: 28^{th} day

Sl.No.	Date of casting	Date of testing	Weight of cube (Kg)	Failure load (KN)	Compressive strength (N/mm^2)
1	08.04.2014	06.05.2014	8.125	476.8	21.19
2	08.04.2014	06.05.2014	8.234	494.1	21.96
3	08.04.2014	06.05.2014	8.349	512.6	22.78

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NABL - Accredited Laboratory as per ISO / IEC-17025 : 2005

Job No.: CTCE/BBMP/W.No.09/KRIDL/WMM/Gradation/2013-14

06.08.2014

GRADATION FOR WMM
MORTH TABLE-400-11

Client : **Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.

Agency : **Technical Manager,** KRIDL, Bangalore.

Name of Work : Improvements to drains and roads of Thindlu Vidyaranyapura and other areas in Ward No. 09, Vidyaranyapura Sub Division, BBMP, Bangalore.

Reference : AEE/BBMP/VSD/PR/296/2013-14 Dated: 22.03.2014

Date of Testing : 06.08.2014

Material : WMM

Sample Location : WMM Mix Plant

Oven Dry Wt (gm): **25775**

Is Sieve Size in mm	Weight Retained (gm)	Cumulative Weight Retained (gm)	Cumulative % of Retained	Cumulative % of Passing	Spec.Limits
53	0	0	0	100	100
45	745	745	2.9	97.1	95-100
22.4	6512	7257	28.2	71.8	60-80
11.2	4794	12051	46.8	53.2	40-60
4.75	3692	15743	61.1	38.9	25-40
2.36	3593	19336	75.0	25.0	15-30
0.600	4256	23592	91.5	8.5	8-22
0.075	1858	25450	98.7	1.3	0-8

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Job No.: CTCE/BBMP/W.No.09/KRIDL/SDBC/Bitumen/2013-14 27.08.2014

BITUMEN CONTENT AND GRADATION DETERMINATION OF SEMI DENSE BITUMINOUS CONCRETE MIX

As per IS : 2386 and IRC : SP : 11 - 1984

CLIENT	**Asst. Executive Engineer,** Vidyaranyapura Sub Division, BBMP, Bangalore.
AGENCY	**Technical Manager,** KRIDL, Bangalore.
NAME OF THE WORK	Improvements to drains and roads of Thindlu Vidyaranyapura and other areas in Ward No. 09, Vidyaranyapura Sub Division, BBMP, Bangalore.
REFERENCE	AEE/BBMP/VSD/PR/296/2013-14 Dated: 22.03.2014
SAMPLE I/D	Roads in Thindlu Vidyaranyapura and other areas in Ward No. 09
DATE OF TESTING	27.08.2014

BITUMEN CONTENT DETERMINATION

Description	Trail 1	Trail 2
1. Weight of Mixture before Test, g	500	500
2. Weight of Mixture after Test, g	477	476
3. Weight of Asphalt and Mineral matter Extracted, g	-	-
4. Weight of Mineral Matter, g.	-	-
5. Weight of Ash, g		
6. Weight of Bitumen Extracted, g. (corrected)	23	24.00
7. Bitumen content in %	4.60	4.80
8. Average	**4.70**	

GRADATION AFTER EXTRACTION

SIEVE SIZE	Trail 1				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	27.98	5.87	5.87	94.13	90-100
4.75	246.38	51.65	57.52	42.48	35-51
2.36	53.14	11.14	68.66	31.34	24-39
1.18	48.65	10.20	78.86	21.14	15-30
0.3	38.96	8.17	87.03	12.97	9-19
0.075	34.27	7.18	94.21	5.79	3-8

SIEVE SIZE	Trail 2				JOBMIX
mm	Weight Retained, gm	% Retained	%Cummulative Retained	% Passing	Gradation
13.2	0	0	0	100	100
9.5	26.78	5.36	5.36	94.64	90-100
4.75	245.32	49.06	54.42	45.58	35-51
2.36	89.65	17.93	72.35	27.65	24-39
1.18	46.15	9.23	81.58	18.42	15-30
0.3	25.87	5.17	86.75	13.25	9-19
0.075	41.61	8.32	95.08	4.92	3-8

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